

The Milne¹⁶ is a multi-purpose, multi-channel, 16-bit data acquisition system, with simultaneous and synchronous sampling of all input channels.



DATA ACQUISITION CARD - Analogue Input*

Number of input channels	4, 8, 12, 16, 20, 24, 28 or 32
Input type	Single-ended
Impedance	50 Ω or 1 MΩ (software selectable)
3dB Bandwidth	5.1 MHz (50Ω), 90 kHz (1MΩ) - Model: Milne ¹⁶ -10 9.6 MHz (50Ω), 90 kHz (1MΩ) - Model: Milne ¹⁶ -20 20 MHz (50Ω), 90 kHz (1MΩ) - Model: Milne ¹⁶ -40
Coupling	DC
ADC Resolution	16 bits
Memory	512 MB onboard memory for data storage
Full-Scale range	± 1 V, ± 5 V (software selectable)
Gain error	± 0.1 % (± 1 V range), ± 0.06 % (± 5 V range)
Offset error	± 0.3 mV
IO Connectors	BNC x 4 for analogue inputs, SMB x 2 for external digital signal inputs
SNR	80 dB (1 MS/s input, SR 10 MS/s, ±1 V range)
SFDR	89 dB (± 1 V range)
Sample Rate (SR)	up to 10 MS/s - Model: Milne ¹⁶ -10 up to 20 MS/s - Model: Milne ¹⁶ -20 up to 40 MS/s - Model: Milne ¹⁶ -40
Triggering	Source: Master Card (Channels 1 to 4), External (TTL, 25 ns min pulse width) or Software
PCI Interface	32 bit, 33 MHz bus

Overview

Three different versions of the instrument are available with sampling rates of up to 10 MS/s, 20 MS/s or 40 MS/s respectively.

The unit is primarily operated in a triggered acquisition mode, with the acquired triggered events stored on the data acquisition system hard drive. Multiple 4-channel data acquisition cards can be synchronised (master-slave setup) together to provide an expandable system with up to a total of 32 channels.

Integrated with ASC's data acquisition (and hardware control) software, the PC-based Milne unit provides a complete data acquisition and multi-channel triggering solution.

* The Data Acquisition Cards series used in the Milne¹⁶ system are the PCI-98x6 models from Adlink Technologies. Further details on this series of cards are available on the Adlink Technologies website (www.adlinktech.com)



DATA ACQUISITION PC*	
Processor	Intel Core 2 Duo E7500/2.8 GHz (or equivalent)
Memory	4GB DDR2 800/667 SDRAM
Hard-disks	2 x 1 TB SATA disks (RAID 0) for data streaming 1 x 250 GB SATA disk for OS
Optical Drives	Combo CD/CD-R/CD-RW/DVD
Network	Dual 10/100/1000BT
OS	Windows XP Professional
Case Type	4U chassis
Gain Error	± 0.1 % (± 1 V range), ± 0.06 % (± 5 V range)
Offset Error	± 0.3 mV
IO	1 x PS/2 keyboard 1 x PS/2 mouse 1 x VGA port 2 x Serial port 1 x Parallel port 6 x USB ports
Expansion Slots	8 PCI/PCI-X, 2 PCI
Physical Dimensions	638 mm (D), 482 mm (W), 117 mm (H)
Weight	25 kg
Power	110/230 VAC
Output	450 W (PFC)
Operating Temperature	0°C to 55°C
Storage Temperature	-20°C to 70°C

* PC typical specification

Example Applications

- Microseismic (MS) and acoustic emission (AE) event monitoring
- Vibration monitoring
- Research and laboratory based high speed data acquisition
- General applications requiring high trigger rates and multi-channel triggering

For more info on the MILNE¹⁶ acquisition system please contact us:

UK Tel: +44 (0)1743 271440 **North America Tel:** +1 416 543 4943

Web: www.appliedseismology.com **Email:** lab@appliedseismology.com